INFLATION AND PROFITS - THE SVA AND DEPRECIATION ADJUSTMENTS IN THE NATIONAL ACCOUNTS

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Discussion Paper No. 29

This paper was prepared originally for a meeting of the National Accounts Advisory Group, Australian Bureau of Statistics. This version incorporates comments made by members of the Group. I have also profited from lengthy discussions with Alan Hall during the preparation of the original and revised versions and from comments by Adrian Pagan. A somewhat similar view of the effect of SVA is provided in Alan Hall's 'The Treatment of the Stock Valuation Adjustment in the National Accounts'.

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SUMMARY

This paper deals with the following problem. In measuring output (or net national product) at current prices it is usual to exclude the capital appreciation in the value of stocks and fixed investment as a result of rising prices. However, this increase in value does result from current production, and is matched by payments of factor incomes (except for revaluation made at balance dates).

Consider, for example, this case. At the beginning of a period the value of unsold stocks is $100, produced by 100 units of labour at $1 a unit in the previous period. There is a 50% gross profit mark-up on costs. In the current period, the stocks are sold for $150 as consumption goods of which $50 is profits. The price of wages rises, however, to $2 a unit and, as in the previous period, labour is used to produce 100 units of stock, but now valued at $200. In the current period, wages are $200 and profits $150. Consumption expenditure is $150, and the SVA is $100.

The practice in the national accounts is to deduct the SVA from business profits. Thus, using the previous example, national product is $150, made up of wages + $200, and profit - $50 ($50 - $100 SVA).

The objection to this procedure is that profits are not the same as profits in general accounting or as used in measuring taxable income, or as accepted by the majority of accountants and accounting bodies.

This paper discusses the nature and effects of the treatment of SVA (and the analogous problem of depreciation at replacement prices), and proposes an alternative way of handling the effect of inflation on capital values of stocks and fixed assets in measuring national product at current prices.
1. INTRODUCTION

A principal issue in the recent debate on the economy has been the relative movements in real wages and profits. It has been widely asserted that declining profits have been a major factor in the current high unemployment and stagnant investment.

According to this viewpoint, real wages have increased relatively to profits, and this has created excessive costs of production. The effects of the 'real wage overhang' on profitability have been widely debated in recent years. The Treasury has been a principal advocate of the need to reduce the level of real wages to restore profitability (and investment).

It is not widely understood, however, that this argument depends crucially on the reliability of the official figures of profits and, in particular, on the appropriateness of the adjustment which the ABS makes to reported figures of profits by deducting the amount of the SVA (or the change in the value of stocks due to price changes in a period).

The amount of the SVA is, of course, directly related to the rate of price change. In recent years, the amount has accounted for up to 25 percent of business profits. In 1979-80, for example, company profits excluding the SVA were $12,859m, while they were about $15,827m including this amount. If the SVA is added back to official figures of profits, the ratio of profits to wages in 1978-79 was 29.3 percent, compared with 31.1 percent in 1969-70 to 1971/2. Excluding the SVA, the comparative figures are 22.1 and 29.1 percent. Adding back the SVA to the ABS figures of profits also alters the picture of the relationship between changes in profits and activity. Instead of the profit share falling prior to the decline in activity (in 1974-75), it is maintained until well into 1974. Comparison of the two sets of figures is given in Table 1. Clearly, interpretation of the causes, extent and cure of the recent recession depend crucially on which series of profit more accurately represents business behaviour.

Now, there seems little doubt that the majority of accountants, accounting bodies and, of course, the taxation departments, do not support the deduction of
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the SVA for general accounting purposes, or in measuring profits for taxable income. Deducting SVA has been widely discussed in recent years in Australia and Britain (particularly following the publication of the Mathews and Sandilands Reports), as a method of correcting conventional profits for the effects of inflation.

There is now an extensive literature on the question of adjusting profits for the effect of inflation, and it is not proposed to go over the issues here. However, there does seem to be a good deal of agreement among accountants that the deduction of the SVA is only a partial correction for the effects of inflation, since it only corrects for the effects of price changes on one item in the balance sheet - that of stocks. If an inflation adjustment should be made (it has been argued), it should be made also to the balance sheet items of monetary assets and liabilities. Furthermore, it has been shown that the adjustments made to stocks and net monetary assets tend to cancel out. One calculation, for example, is shown in Table 2. These results were prepared by a firm of British stockbrokers shortly after the Sandilands Report was published and were comprehensive.

**TABLE 2**

PROFITS BEFORE AND AFTER ADJUSTING FOR INFLATION USING METHODS OF CURRENT ACCOUNTING

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<th>Conventional Pre-tax $'000 m.</th>
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<th>Current Accounting Monetary Gains $'000 m.</th>
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<tr>
<td>Last year</td>
<td>3.9</td>
<td>1.6</td>
<td>3.3</td>
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<td>Forecast</td>
<td>3.7</td>
<td>1.5</td>
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Detailed analysis of the effects of the adjustment by industry showed that the allowance for the gain on monetary assets was always positive and the net result after allowing for monetary gain was always much lower than the results obtained from straightforward current accounting. On the other hand, however, there were large differences for some industries between the net result and that from applying historical cost accounting; for some industries, the current accounting result plus monetary gain is bigger than the conventional profit.

However, while the inadequacy of the SVA for general accounting purposes seems now to be generally recognised, the implications of the official figures of profits have not been widely debated. While most economists and accountants seem prepared to accept the arguments against current accounting, there is a reluctance to discard the official figures of profits. It may be thought that while current accounting methods are inappropriate for general accounting, they may nevertheless be applicable for purposes of national accounting, and for assessing trends in business profitability, and trends in the shares of wages and profits. It is not uncommon for the ABS estimates to be treated with excessive respect. Moreover, the SVA has been recommended by international bodies and adopted by most countries (all advanced Western countries) which compile national accounting statistics.

It is also the case that the identity of savings and investment (which underlies the presentation of the national accounts) requires an adjustment for the amount of the SVA - if investment in stocks is measured as the change in the quantity of stocks valued at some average level of prices over the period. In accounting statements, profit equals the sum of (sales less purchases) plus (the value of stocks at the end less the value at the beginning of the period), or in accounting form:

\[
\text{Value of stocks at beginning} + \text{Purchases} + \text{Profit} = \text{Sales} + \text{value of stocks at end}
\]
In aggregating all business accounts (for the purpose of compiling the business sector of the national accounts), intermediate transactions cancel out in netting purchases and sales, and the remainder of purchases equals the sum of imports, wages and salaries and other final inputs, while the balance of sales equals fixed investment, personal and government consumption, and other final expenditure. The difference between these totals is the aggregate value of the increase in the book value of stocks. This comprises the SVA and the investment in stocks, as measured by the ABS, that is, the change in the quantity of stocks in the period multiplied by an average of prices of the period.

The method of measuring investment in stocks is designed to value this investment in the same way as other items of final output - as the product of a quantity and a price. This method has a lot of advantages, apart from ensuring consistency between the items. It is readily understood, appears to suit most users of the data of final expenditure, and facilitates deflation (which is made by correcting the price component). It does, however, require the deduction of the SVA from the change in the book value of stocks and, if the two sides of the accounts - the sum of incomes and the sum of expenditures - are to balance, requires a deduction of the SVA from income items (or an addition of this amount to expenditure items elsewhere). The procedure adopted by the ABS, and national accountants generally, is to exclude the SVA from business profits.

There are, therefore, really two questions which arise in discussing the rationale of the SVA. First, is there a special reason for deducting the SVA from profits in national income accounting? Secondly, if not, then how should the SVA be recorded in the accounts to enable the income and expenditure sides to balance?

2. The SVA Problem

(1) The arguments of the national accountants

For a comprehensive account of the SVA it is necessary to go back to
the original paper by Simon Kuznets in the first of the National Bureau of Economic Research Conference Series in 1937. Up to that time, the usual practice had been to adopt the accounting or taxation conventions in measuring profits. Keynes, in the General Theory notes his definition of income as being "close to Marshall's definition which is based on the practices of the Income Tax Commissioners".

Kuznets encountered the problem of the SVA in the course of compiling the first estimates of national expenditure using the now familiar commodity-flow method - that is, estimating national income as the sum of final output, less materials used or as the "value of commodities and services produced, minus the value of wealth consumed in this production". In applying this method he was led to consider the method of valuing the wealth consumed, or the deductions made from current output for the goods and services used in production. He proposed that instead of using the accounting values at historical prices, these items should be revalued to the current costs, or at their 'current prices', because "if national income at current prices is to have any consistent meaning, the characteristics of current market valuation should obviously apply both to the gross national product and to the commodities consumed in their production". This involved the deduction of an amount corresponding approximately to the SVA. Kuznets noted that the resulting figure of profits was not the same as that employed in business accounting, but considered that the "attempt to measure what the net income actually is, rather than what people think their net incomes are, seems to me fully justified"

(2) The Case for not Deducting the SVA

Partraying activity

As H.P. Brown argued some 30 years ago, distribution of the surplus created by on-going business activity is largely a matter of convention and of institutional practice. If the national accounts of a particular country
at a particular time are to have relevance to the actual transactions and
behaviour of people in the market place then its accounting conventions need
to have regard to prevailing business conventions. So long as the majority
of firms report their activities in historical cost terms then this should
be the guiding principle for national income accountants. Their role in
adjusting business accounts should be limited to bringing the few exceptions,
for example BHIP, in the last decade or so, into line with the treatment of the
majority of firms. In the event that the accounting profession should ever
agree on a consistent method of accounting for inflation and persuade firms
to adopt the appropriate accounting procedures, then it might be appropriate
for the Statistician to adopt this method in measuring profits in the
national accounts.

(3) **Arguments for the SVA**

Three main arguments have been put forward for deducting the SVA. They
all appeared in the original statement by Kuznets in 1936 and have appeared
in one or more of the national accounting manuals and international
recommendations.

(a) **The SVA as a capital gain**: Kuznets proposed that there be excluded from
national income "gains and losses arising from the rise or decline in prices
of commodities held in stock". This argument was also used in the first
recommendation on national accounting practices by the League of Nations in
1945, where it was stated that the adjustment "is desirable [since] from an
economic point of view ... profits should be so defined as to exclude inventory
profits".

It also appears in the national accounting manuals for the USA, which
state that the (SVA) "adjustment is made to corporate and unincorporated
business profits to remove the inventory profit or loss that occurs in
business accounting when the book value of goods removed from inventories
differs from the current replacement cost".
There is a long standing convention in national accounting that windfall capital gains and losses are excluded, and that income and output relate only to that generated from productive activity. The problem is to distinguish between those windfall profits and losses and what may be described as 'normal profit'. Here I think it is necessary to rely on the general usage by accounting and taxation authorities. In general, the practice is to accept that a capital gain arises (under historical cost pricing) when prices rise, and stock bought at old prices is sold at the higher price. This produces an increase in profits above the long-term normal level. This situation is recognized by accounting and taxation authorities and it is not uncommon for LIFO methods to eliminate this amount from reported profit both for general accounting purposes and in measuring profit for tax purposes.

The SVA, however, depends only on changes in the cost price of goods in stock, which result from changes in costs. If these prices rise, then the value of goods held in stock also increases, leading to the need for the SVA. But, unless final selling prices also rise, at the same time as the increase in costs, profits as measured under historical accounting will not rise by the amount of the SVA. In other words, profits as recorded in the accounts will not reflect any additional capital gain.

We may describe more generally the association between capital gains and SVA by a simple illustration. We assume (as above) that capital gain occurs as a result of an unexpected rise in selling price which enables firms which bought goods at one level of prices to sell them at the equivalent of a higher level of prices. For the purpose of the illustration, firms are assumed to fix selling prices by adding a mark-up to costs of production; the mark-up is intended to cover normal profits, or that amount sufficient to earn a normal rate of return on capital. The capital gain arises when firms are unexpectedly able to sell at prices which allow a greater return.

We consider three cases. Each case related to transactions within one period of production, or the time taken for raw materials to be processed and sold.
as finished goods. Firms start at the beginning of this period with a given quantity of stocks. During this period all this stock is sold, and replaced by an equivalent quantity of new goods, all of which remain unsold at the end of the period.

The cases describe the effects on profits and the book value of stocks of:

1. a rise in costs which is passed on as higher selling prices, assumed to be determined by adding a mark-up to historical costs of production (i.e. the case where 'normal' profits are earned); 
2. a rise in selling prices which is associated with and occurs at the same time as an increase in costs. In this case selling prices equal historical costs of production plus the 'normal' profit plus the increase in the cost of materials purchased (the increase in the cost of materials purchased is hence a capital gain); 
3. a rise in selling prices not associated with an increase in costs.

(1) In this case profits are not augmented by an amount of capital gain. At the end of the period, however, the book value of stocks has risen, due to the higher price of goods purchased (stocks are valued by the usual accounting procedure to value at the lower of cost or market). This results in an SVA. In this case, therefore, there is no capital gain but an amount of SVA.

(2) In this second case, there is a capital gain accompanied by an increase in the book value of stocks at the end of the period, or an SVA.

(3) Here, there is no rise in costs and hence no SVA, but there is an amount of capital gain.

It is probable that business in general base selling prices on a mark-up on costs of production, and the mark-up is relatively insensitive to short-term changes in demand. This would lead to the need for the SVA when costs (and hence book values of stocks) rise, but would not result in any increase in profits due to capital gain. Accordingly, it is reasonable to believe that very little, if any, of the SVA reflects a capital gain.

Of course, if replacement prices were above the historical cost, and stocks were revalued upwards in the accounts, then profits would include an amount of capital gain (unrealised); the deduction of this
amount from profits could be justified, at least for national accounting purposes. In his original paper, Kuznets appears to believe that book values of stocks were in practice revalued upwards when replacement prices were higher than the cost price and that his adjustment would delete the effect of this adjustment from profits. 8

It is worth adding that there may have been considerable justification to assume in the early 1930s in the USA that cost-plus pricing was less relevant, and that greater scope existed for capital gains. The deduction of the SVA from profits in the USA during the late 1920s and early 1930s did not have a noticeable effect on the trend in the share of profits in national income and in some years it is possible that profits were inflated by this procedure.

In the 1920s and early 1930s, however, cost-plus pricing methods were less common than now, and prices (and profits) were more sensitive to demand pressures. It is generally thought now that, apart from isolated industries such as mining and agriculture, prices are largely or entirely related to historical costs of production.

(b) Measuring costs at current prices

As expressed by Kuznets, the SVA served "to calculate the inventories consumed in the process of production at their market price at the time of consumption, rather than at their book values". The USA manual comments (following the discussion of the capital gains due to SVA) that "valuation in current prices of the costs of inventories used up puts sales and costs on a consistent basis, and is necessary to derive measures of national output in current prices", and the Australian National Accounts states that the adjustment overcomes "a failure to measure current costs". It is assumed that the argument implies something more than adjustment for the effects of price changes (which, in any case, would be inappropriate in accounts which purport to be 'in current prices'). 9

The main problem with this approach is the treatment of profits. The adjustment revalues costs of labour and materials from historical to replacement or market prices, and deducts the increase in costs from profits.
This brings in the implication that profits are not a cost, or that profits are overstated by this amount. There is no economic theory which states that profits are not a cost of production (except perhaps in the Mar'-ist labour theory of value), and certainly the Keynesian theory, which underlies the national accounts, treats components of profits as costs of production. In any case, if profits were not a cost there would be no case for including any part of profits as factor income (i.e. costs of production would be simply wages, imports and indirect taxes). Similarly, there seems no special reason apart from the inclusion of capital gain why true profits are overstated by this amount.

Treating profits as a cost of production, the correct procedure for valuing output at current costs (or prices), would be to add an amount to market prices to reflect the fact that current costs of labour and materials are higher than the historical costs. This would require distributing the SVA to various items of final expenditure. This would result in a value of national output where investment in stocks excludes, and profits include, the SVA. Indeed, unless this procedure is adopted final output (consumption and investment) is not in fact valued at the prices of the period that the SVA adjustment purports to be employing. There is thus a valuation inconsistency between the two sides of the accounts where the SVA is treated as a deduction from profits.

(c) The Valuation of Stocks

The final argument for the adjustment is that "it implicitly includes changes in inventories only insofar as they represent accretions to or depletions from the stock of commodities comprising the inventories" (Kuznets, p.165). This argument was used in the UK national accounts, where it was set out as follows. "If this [i.e. historical cost] definition of profit were accepted in national income measurement, it would mean that any increase over a year in the money value of stocks would be treated as 'adding to wealth', even if the physical volume of stocks remained constant. But for a measurement of income and stock changes consistent with other flows dealt with in the system of national income statistics it is desirable that 'additions
to wealth' should include only real additions to wealth arising from the activities of the period. The effect of normal accounting methods is that in times of rising prices the money value of stocks increases by more than the physical volume valued at the prices of the year, and book profits thus incorporate an amount which from the present point of view must be regarded as a capital gain, not income." (It is nevertheless noted that the unadjusted data are the "profits as normally reported and have their influence on business policy; for interpretation and prediction of trends, the unadjusted data may prove more valuable than the adjusted estimates").

As in the case of the previous argument, there is no new reason for adjusting profits: while reference is made to capital gains or losses, this is qualified by the observation that this is only 'from the present point of view'. Nevertheless, as with the previous argument, there may well be a case for the method of valuing output proposed; again, the difficulty is how to deal with the 'penky' item of the SVA.

(4) The Treatment of the SVA

The previous section has indicated the real nature of the SVA problem. In business accounting output is the sum of current sales revenue plus the increase in the book value of stocks, while in national accounting output includes only the value of sales plus the value of the physical increase in stocks. The national accountants treat, in effect, the change in the book value of stocks between the beginning and the end of the period as a revaluation of assets, which is excluded from a measure of output; for the individual business, however, the increase in the book value of stocks is properly a part of the increase in net worth.

The problem of the SVA, therefore, does not arise as a result of a deficiency in the method of measuring profits, but from an inconsistency in measuring output. The simplest way of handling the SVA is to include a new item on the expenditure side of the national accounts, labelled 'revaluation
adjustment'. (The "correct" alternative would involve the use of input-output tables to allocate the revaluation adjustments to consumption and investment and would be too cumbersome in practice - especially in quarterly accounts.)

The difference between the two estimates may also be explained as a difference in methods of valuing output. If the SVA is included as part of output, then the value of output equals actual cost of production incurred in the current period. If output excludes the SVA, then output is valued at the cost of producing the goods which are actually sold in the period. In the former case, output is valued at current costs of production; in the latter case, output is valued at the cost of goods actually sold, or at 'transaction costs'. The quantity of output produced is the same in both estimates but, in the latter case, the deduction of the SVA means that those costs which merely result in higher prices of goods in stock are excluded. Hence, the total output is valued at the cost of the goods sold.

While the estimate of output at transaction costs may be useful for some purposes, it also has some limitations. In assessing the effects of changes in costs of inputs, such as wages, on final prices, for consistency the relevant price of output should be the implied price index of output at current costs of production, and not at transaction costs. The latter series does not reflect the higher costs of labour on the value of unsold stock. Also, in comparisons between the supply of money and the value of turnover, the appropriate figure of turnover is national expenditure at current prices, since the accumulation of stocks has to be financed.

3. Depreciation

The treatment of capital consumption (or depreciation) in the national accounts raises questions which are somewhat analogous to those which arise in the case of stocks. If prices rise during a year, the capital stock (or rather part of it) is revalued upwards. In the measurement of output (or net national product) it is necessary to exclude that investment expenditure which
serves to replace capital used up. If prices rise in the period, the replacement results in an upwards revaluation of the capital stock, which is excluded from net product at current prices, for the same reason as the SVA is excluded from output. This involves measuring capital consumption (or depreciation) at the current (replacement) prices. While there is currently some debate about the necessity for depreciation at replacement cost for purposes of general accounting, the great weight of opinion still endorses the use of historical cost in calculating depreciation for accounting purposes. Hence, there is the problem of incorporating the accounting estimates of profits in a system of accounts where output is measured to exclude the effect of the revaluation, and where business profits include this amount.

While the revaluation of fixed assets can be treated in the national accounts in the same way as the revaluation of stocks, three special problems arise in making the necessary estimates of the effects of price changes on the capital stock.

(a) In the first place, only part of the stock of fixed capital is revalued in an accounting period (a year or a quarter) and the valuation adjustment relates only to that part of the stock.

(b) Secondly, while the estimates of the SVA are derived directly from accounting statements, adjustment for depreciation does not rely on estimates in the accounts. Depreciation, as employed in firm accounts is a financial provision to fund replacement, not a measure of the reduction in effectiveness of physical assets. Hence, accounting methods of depreciation may be inappropriate in the national accounts.

(c) The meaning of capital maintenance, under technological change, has been exhaustively surveyed. In recent years, however, economists have questioned the need for depreciation, however measured. The issue centres on the nature of the depreciation charge. It is now tending to become accepted by economists (at least) that conventional depreciation measures greatly overstate the decline in the efficiency of assets during their lifetime. It is now generally thought that, provided proper maintenance is made, the technical life
of assets is much greater than their economic life. For example, enquiries to firms have shown that there is often considerable discarded equipment available which could be brought back into production if necessary, and the experience of the war years when the life of assets has been stretched well beyond the usual life is well known. Scraping of assets is not so much a result of declining efficiency, but the result of the development and introduction of new equipment which incorporates new and improved technology. To the extent that this is true, then the loss entailed in scrapping assets will tend to be balanced by a gain through the availability of better equipment. Accordingly, charging businesses with the full cost of the depreciation at replacement prices will considerably overstate the true cost to the economy. Obsolescence can be regarded as a result of a transfer of wealth from owners of existing equipment to new capital (who may, of course, be foreigners).\textsuperscript{12}

4. The Effect of Inflation on Profits

In the usual comparisons of profits to wages (or national income) the figures of profits are adjusted for the SVA and sometimes an estimate is deducted of depreciation at replacement cost. The results invariably show a sharp drop in the profits share following the rise in costs and prices late in 1973-74. As discussed earlier, however, the changes in the ratio of profits to wages (or national income) tell very little about the changing profitability of businesses. The important question is whether the rate of return on funds employed is adequate to attract capital funds. To answer that question it would be necessary to contrast the return on shareholders funds with that available to other investments (after adjusting for differences in riskiness, etc.). However, an attempt to do that in an earlier paper ran into severe problems due to the inconsistencies and unreliability of the basic data.\textsuperscript{13} In this paper we follow the usual procedure of regressing the share of profits in national income on variables which are intended to reflect cyclical and trend effects, as well as the rate of price change.

The dependent variable is the ratio of the gross operating surplus (plus inventory valuation adjustment) to non-farm product (plus the inventory
revaluation). The assumption is that in the medium term prices are based on implicit mark-up costs. Mark-up pricing of this sort has often been used in studies of factors determining price and wage movements. This pricing method implies that firms set their prices at a level which is sufficient to cover average unit cost plus a 'mark-up', which supposedly yields the firm a satisfactory rate of return on its investment or costs. However, as Australian and overseas studies reveal, the mark-up is not constant, being varied with short-run changes in demand or supply.

Excess demand is proxied by registered vacancies as a percent of employment. Labour productivity is included as a variable in the belief that prices tend to be marked up on the trend or normal movement in labour productivity. Hence short-run changes in productivity will affect profit levels.

Inflation may affect activity through, for example, increasing uncertainty, or by giving rise to an expectation of policy action to curtail inflation through reduced demands or monetary contraction. On the other hand inflation can be expected to increase the money rate of interest and this would tend to lead firms to increase the profit ratio. For the present purpose we are interested in seeing what effect inflation does have on the regression equations, after allowance has been made for demand factors, productivity and any secular trend. The time trend is included to allow for the observed experience of a secular downward trend in the profit rate. The data are logs of quarterly figures (not seasonally corrected) from September 1959 to June 1980. Seasonal dummies are included as additional explanatory variables.

As indicated above, the SVA is added back to the official figures of profits, so that profits are the figures reported in accounting statements - or more pertinently reported for income tax purposes. It is worth noting that the addition of the SVA to the ABS series of profits does make a great deal of difference to the figure of company profits in 1973-74. In fact while the ABS figures show a fall of ten percent in the ratio of profits to wages, the adjusted series (which adds back the SVA) increases by about ten percent.
The adjusted figures fit the economic trends much more closely. The ABS figures imply reduced business activity in 1973-74. In fact, however, the numbers in civilian employment rose strongly until June 1974 before declining; the number of job vacancies peaked in April 1974, but the figure for June 1974 was still well above the level in June 1973; and factory overtime in June 1974, while slightly lower than in previous months, was still higher than 12 months ago.

The results of the regressions are shown in Table 3. In the first two columns, the independent variables are demand, labour productivity, trend and relative import prices. The results in the next two columns include an additional variable for the rate of inflation. The conclusion is that the movement in the profit share is quite well explained in terms of the cyclical and trend factors, and that the rate of inflation has no significant effect. The first equation was then re-estimated using the published figures of the gross operating surplus and gross non-farm product, i.e. after deducting the SVA, and these results are given in columns 5 and 6. Here the variables for productivity change, demand, and the trend all have the incorrect signs, and there is considerable serial correlation.

The residuals of the first equation (which include relative import prices, but exclude the rate of inflation) are plotted in Chart 1 and these show increasing overprediction in the last two years. If these periods are excluded both the significance of the results and the value of the DW statistic improve, without, however, seriously affecting the coefficients reflecting the cyclical and trend effects (columns 7 and 8). However, in contrast to the results for the full period, the term of relative import prices is now significant - an increase in import prices leading to an increase in the profits share - although only barely so at the 5% level of significance.

Finally, we note, from the plot of the residuals as shown in Chart 1,
### TABLE 3
RESULTS OF REGRESSION EQUATIONS

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>(a) Coeff. Value</th>
<th>t-value</th>
<th>(a) Coeff. Value</th>
<th>t-value</th>
<th>(b) Coeff. Value</th>
<th>t-value</th>
<th>(c) Coeff. Value</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.16</td>
<td>9.8</td>
<td>-2.09</td>
<td>10.5</td>
<td>-2.84</td>
<td>9.7</td>
<td>-2.15</td>
<td>10.3</td>
</tr>
<tr>
<td>Productivity</td>
<td>1.18</td>
<td>4.3</td>
<td>1.06</td>
<td>5.1</td>
<td>-0.52</td>
<td>1.5</td>
<td>1.14</td>
<td>4.5</td>
</tr>
<tr>
<td>Demand</td>
<td>0.067</td>
<td>3.2</td>
<td>0.064</td>
<td>3.0</td>
<td>-0.046</td>
<td>1.6</td>
<td>0.045</td>
<td>2.3</td>
</tr>
<tr>
<td>Trend</td>
<td>-0.0062</td>
<td>4.6</td>
<td>0.0059</td>
<td>4.6</td>
<td>0.016</td>
<td>7.5</td>
<td>-0.0083</td>
<td>6.0</td>
</tr>
<tr>
<td>Rate of Inflation</td>
<td>-</td>
<td>0.018</td>
<td>0.018</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative Import Prices</td>
<td>0.10</td>
<td>0.7</td>
<td></td>
<td></td>
<td>-0.44</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.75</td>
<td>0.75</td>
<td>0.95</td>
<td>0.79</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D W Statistic</td>
<td>1.26</td>
<td>1.22</td>
<td>0.84</td>
<td>1.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(a) Dependent variable is (GOS + SVA)/(GNFP + SVA)
(b) Dependent variable is (GOS)/(GNFP)
(c) Dependent variable is (GOS + SVA)/(GNFP + SVA).
Data excludes the last two years.
that after allowing for cyclical and trend factors, the share of profits was below the predicted levels in most quarters from early 1974 to 1978 but since the middle of 1979, the profit share has been above the expected level, despite the persistence of inflation. In the first three quarters of 1980, the share has averaged about 3.6 per cent higher than the predicted levels. These results conflict with the assessment of recent trends in profitability by the Commonwealth Government. For example, in the submission to the National Wage Case in 1980, the Government argued that while there was 'a slight improvement in the profit share in 1978/79, it would clearly have fallen well short of what was required to restore long-term average profitability' and 'it is inconceivable that the gap would be anything like closed in 1979/80'. It was concluded the 'the present state of business profits in such as to require further restoration'.

But, as Chart 1 shows, the profit share, after allowing for cyclical and trend factors, has been higher than normal since the middle of 1979. Government policy towards the restoration of profits consequently appear mistaken, having been based on misleading figures of profit and ignoring effects from cyclical and demand factors.
FOOTNOTES

1. See, for example, the recent survey of attitudes of Australian businesses reported in Kelly, *Australian Accountant*, March 1981.

2. Similar results for US businesses are shown in S Davidson and R L Weil, "Inflation Accounting: Implications of the FASB Proposal", in H J Aaron (Ed.), *Inflation and the Income Tax*, The Brookings Institute, 1976. However, these figures include an adjustment for depreciation and the results also reflect the use of LIFO by many US businesses.


6. Some companies itemise these capital gains. In Britain, for example, BP reported that its stock profits in the first quarter of 1974 were £175m. (compared with a rise in the replacement cost of stocks at 500m.) (Phillips and Drew, 1975.)

7. Except where stocks are revalued at balance dates. This arises, however, in practice only where prices are falling, and stocks are revalued downwards as a result of the application of the accounting convention to value stocks at 'the lower of cost or market'. Stock revaluations for this reason are unlikely to have been important in recent years.


9. During the 1920s and early 1930s there had been considerable pressures for the adoption of LIFO accounting for tax benefits. However, national accountants had also proposed systems of 'economic' accounts, or accounts based on consistent and economically valid concepts, which among other things eliminated capital gains and losses. It is possible that Kuznets had in mind such a system. In any event, much confusion has been caused by Kuznets in identifying the SVA with capital gains without, however, spelling out precisely the nature of such gains.

10. In national accounting profits are represented by 'gross operating surplus' which includes interest, dividends, company taxes and depreciation. It could be argued that 'pure profits' which is broadly profits in excess of the amount necessary to earn a reasonable return on capital, is not a cost of production, or payments to a factor of production. However, this amount would comprise a relatively small proportion of 'gross operating surplus'.

